



Volunteer Lake Assessment Program Individual Lake Reports

ARMINGTON LAKE, PIERMONT, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,368	Max. Depth (m):	10.3	Flushing Rate (yr ⁻¹)	1.5	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	142	Mean Depth (m):	3.9	P Retention Coef:	0.63	2005	OLIGOTROPHIC	
Shore Length (m):	4,500	Volume (m ³):	2,340,500	Elevation (ft):	1334	2007	OLIGOTROPHIC	

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

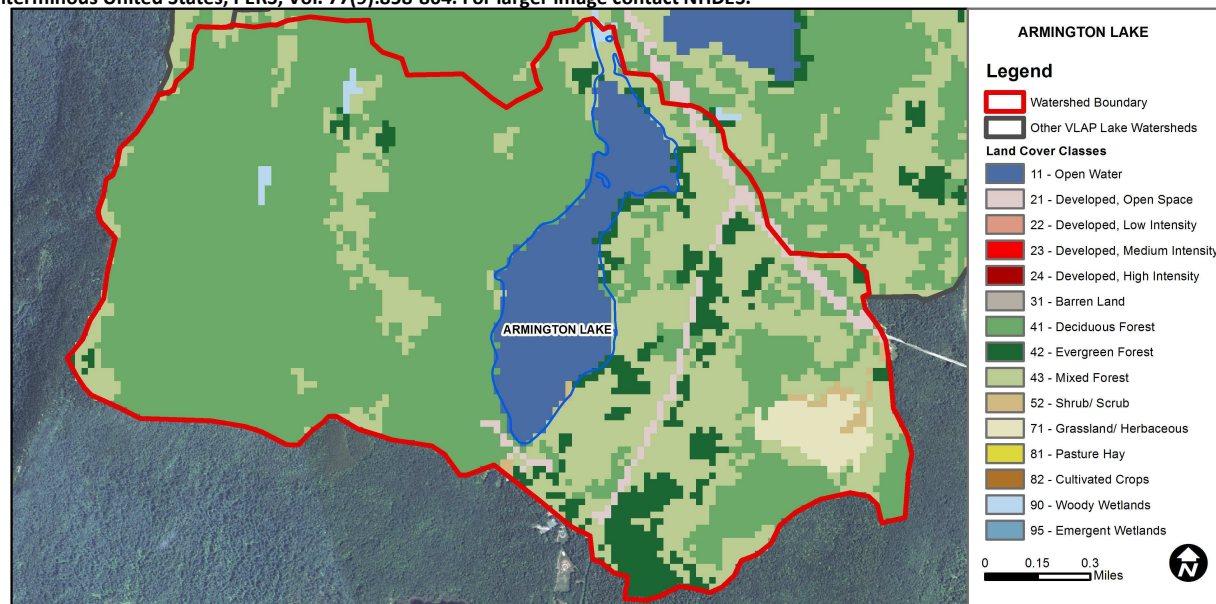
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

LAKE ARMINGTON - CAMP WALT WHITMAN BEACH	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
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WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	8.87	Barren Land	0	Grassland/Herbaceous	1.86
Developed-Open Space	1.96	Deciduous Forest	55.85	Pasture Hay	0
Developed-Low Intensity	0	Evergreen Forest	6.58	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	23.81	Woody Wetlands	0.36
Developed-High Intensity	0	Shrub-Scrub	0.57	Emergent Wetlands	0



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

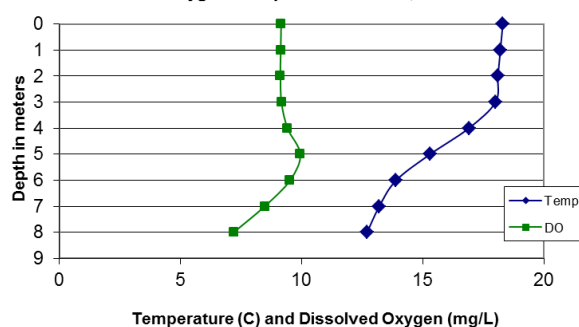
ARMINGTON LAKE, PIERMONT, NH

2013 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Graphic)

- ♣ **CHLOROPHYLL-A:** The 2013 average chlorophyll levels continued to be very low. Historical trend analysis indicates significantly decreasing chlorophyll levels since 1990.
- ♣ **CONDUCTIVITY/CHLORIDE:** Conductivity levels remained low at all stations and are well below the NH median value. Historical trend analysis indicates stable epilimnetic conductivity since 1990.
- ♣ **E. coli:** E. coli levels were very low and well below state standards for public beaches and surface waters.
- ♣ **TOTAL PHOSPHORUS:** Deep spot phosphorus levels were low in 2013 and historical trend analysis indicates a significantly improving epilimnetic phosphorus level since 1990.
- ♣ **TRANSPARENCY:** Transparency improved in 2013 and viewscope transparency was over a meter better than non-viewscope transparency. Historical trend analysis indicates relatively stable transparency since monitoring began.
- ♣ **TURBIDITY:** Turbidity levels were very low at all stations.
- ♣ **pH:** pH levels in the hypolimnion and Outlet were slightly less than desirable. Historical trend analysis indicates a relatively stable epilimnetic pH, with an increasing (improving) pH particularly since 2010.
- ♣ **DISSOLVED OXYGEN/TEMPERATURE:** Dissolved oxygen levels decreased slightly in the hypolimnion but were sufficient to support aquatic life.
- ♣ **RECOMMENDED ACTIONS:** Maintain the current monitoring program and education and outreach activities. Water quality is excellent and the improving trends are

Dissolved Oxygen Temperature Profile, June 2013



NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

Station Name	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.		Turb.	pH
	mg/l	ug/l	uS/cm	#/100ml	ug/l	NVS	VS	ntu	
3				1					
Epilimnion	4.17	0.81	33.5		4	6.02	7.18	0.49	6.91
Hypolimnion			30.64		5			0.59	6.48
Outlet			37.78		4			0.45	6.39
Site 2b				1					
Site 4a				1					
Site 6a				1					
Site 6h			26.97		4			0.29	6.94
Site 6j				1					

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	Stable	Data show moderate variability.	Chlorophyll-a	Improving	Data significantly decreasing.
Conductivity	Stable	Data show low variability.	Transparency	Stable	Data displays low variability.
			Phosphorus (epilimnion)	Improving	Data significantly decreasing.

